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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/644,463	08/23/2000	Matthew B. Haycock	884.303US1	2625
21186	7590	06/03/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402-0938				PHAN, RAYMOND NGAN
ART UNIT		PAPER NUMBER		
2111				

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.	09/644,463	
Examiner	Art Unit Raymond Phan	
	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 23 March 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 9-13 and 20-27 is/are allowed.
- 6) Claim(s) 1,6,7,14-16,28 and 30 is/are rejected.
- 7) Claim(s) 2-5,8,17-19 and 29 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

### **Part III DETAILED ACTION**

#### ***Notice to Applicant(s)***

1. This action is responsive to the following communications: remarks filed on March 23, 2005.
2. This application has been examined. Claims 1-30 are pending.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claim 28 is rejected under 35 U.S.C. § 102(e) as being anticipated by Houg (US No. 6,324,596).

In regard to claim 28, Houg discloses a method of synchronizing an agent to a bi-directional bus comprising de-asserting a ready signal (i.e. irdy) to drive a transmission line having a second agent driver present thereon to signify the agent not ready to communicate on the bi-directional bus (see col. 3, lines 40-54); asserting the ready signal to signify the agent is ready to communicate on the bi-directional bus (see col. 3, lines 27-54); monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bi-directional bus (see col. 3, line 65 through col. 4, line 22).

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7. Claims 14-16 is rejected under 35 U.S.C. § 102(e) as being anticipated by Houg (US No. 6,020,767).

In regard to claim 14, Livolsi discloses wherein the data driver (i.e. driver) having an output impedance control circuit to modify an output impedance of the data driver (see col. 2, line 61 through col. 3, line 30); and the synchronize circuit (i.e. PCNN) is configured to alert the second simultaneous bi-directional port that the output of the impedance has been modified (see col. 2, lines 45-60).

In regard to claim 15, Livolsi disclose the output impedance control circuit is configure to initialize the output impedance of the data driver (see col. 2, line 61 through col. 3, line 30); and the synchronize circuit (i.e. PCNN) is configured to alert the second simultaneous bi-directional port that the output of the impedance has been initialized (see col. 2, lines 45-60).

In regard to claim 16, Livolsi discloses the driver having the output node through a conductor to an output node of the second port circuit (see 3, lines 20-50); a receiver having the input node coupled to the output node (see col. 3, lines 20-50); wherein the receiver input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver (see col. 2, line 61 through col. 3, line 44).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 7, 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garde (US No. 6,002,882) in view of Livolsi.

In regard to claims 1, 30, Garde discloses simultaneous bi-directional I/O circuit comprising a driver having an output node to be coupled to the conductor external to the integrated circuit (see col. 2, lines 19-41), such that driver launched an initial voltage value (i.e. logic control) on the conductor when the driver changes states (see col. 11, lines 22-53); a receiver including an input node coupled to the output node of the driver (see col. 2, lines 19-41). But Garde does not specifically disclose the use of a receiver having input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver. However Livolsi discloses the use of receiver having input hysteresis having a threshold set such that the initial voltage value does not change an output state of the receiver (see col. 2, line 61 through col. 3, line 44). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Livolsi within the system of Garde because it would provide a high speed communication between the devices.

In regard to claim 7, Garde discloses the integrated circuit is a circuit type from the group of processor, memory (see col. 3, line 56 through col. 4, line 15).

10. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Garde et al. in view of Livolsi and further in view of Houg.

In regard to claims 6, Garde and Livolsi disclose the claimed subject matter as discussed above rejection except the teaching of asserting the ready signal to signify the agent is ready to communicate on the bi-directional bus monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bi-directional bus. However Houg discloses

asserting the ready signal to signify the agent is ready to communicate on the bi-directional bus (see col. 3, lines 27-54); monitoring the transmission line for an indication that both the agent and the second agent are ready to communicate on the bi-directional bus (see col. 3, line 65 through col. 4, line 22). ). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Houg within the system of Garde and Livolsi because it would provide a synchronization between circuits.

***Allowable Subject Matter***

11. Claims 9-13, 20-27 are allowable over the prior of records.
12. Claims 2-5, 8, 17-19, 29, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
13. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claims 2, 8-9, 17, 19, 29, are allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior arts which teach wherein the driver comprise a pullup transistor having an output impedance, and a pulldown transistor having an output impedance the output impedance of the pullup transistor being greater than the output impedance of the pulldown transistor (claims 2, 9, 19, 29); the initialization circuit to drive an input node of the driver to low during initialization (claim 8); a slew rate control circuit to control the output slew rate of the data driver (claim 17).

The remaining claims, not specifically mentioned, are allowed for the same rationale as set for their dependency.

The reason for allowance of claims 20-27 can be found in previous Office Action.

***Response to Amendment***

14. Applicant's arguments, see pages 8-12, filed on March 23, 2005, with respect to the rejections of claims 1-19, 28-30 under 35USC102/103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Livolsi, Garde and Houg.

***Conclusion***

15. Claims 1, 6-7, 14-16, 28, 30 are rejected. Claims 2-5, 8, 17-19, 29. Claims 9-13, 20-27 are allowed.

16. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

**Maiyuran et al. (US No. 6,175,253)** disclose a fast bi-directional tristateable line driver

**Rees et al. (US No. 6,225,819)** disclose a transmission line impedance matching output buffer.

**Morris et al. (US No. 6,708,277)** disclose a method and system for parallel bus stepping using dynamic signal grouping.

**Sanwo et al. (US No. 5,903,167)** disclose a high speed CMOS bus transmitter and receiver.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 746-7239.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 central telephone number is (571) 272-2100.



*Raymond Phan*  
May 28, 2005